

REMARKS

Attached hereto is a marked-up version of the changes made to the specification by the current amendment. The attached page is captioned "Version with markings to show changes made."

The amendments to the Specification serve to correct inadvertent and unintentional errors which would be obvious to one of ordinary skill in the art. These errors were the incorrect identification of several amino acid residues on page 11, lines 23-24, of the Specification.

The Specification incorrectly states that the conserved serine residue of the serine carboxypeptidase catalytic triad is located at position 189 of CPEPT, position 189 of VCP, and position 79 of HPP (page 11, lines 23-24). Neither residue 189 of CPEPT (SEQ ID NO:1), 189 of VCP (SEQ ID NO:7), nor 79 of HPP (SEQ ID NO:8) are serine residues, as indicated in both the Sequence Listing, and in Figures 2A and 2B. Cho et al. (1991; Proc. Natl. Acad. Sci. USA 88:10821-10824; Reference 1, attached) identifies the serine residue at position 207 of VCP as the serine of the catalytic triad (Cho et al.; Figure 4 on page 10823). The Cho et al. reference is cited in the specification at page 2, line 24, and incorporated by reference at page 46, lines 9-10. Therefore, one of skill in the art would routinely be able to determine that residue 207 rather than residue 189 was the catalytic serine of VCP. Similarly, one of skill in the art would routinely be able to determine that residue 178 rather than residue 79 was the catalytic serine of HPP based on Galjart, N.J. et al. (1988; Cell 54:755-764; Reference 2, attached; see Figure 3 on page 757). The Galjart et al. reference is cited in the specification at page 1, line 26, and incorporated by reference at page 46, lines 9-10. Furthermore, an examination of the sequence alignment between VCP, HPP, and SEQ ID NO:1, as shown in Figures 2A through 2D, would lead one of skill in the art to conclude that residue 204 of SEQ ID NO:1, which corresponds to serine 207 of VCP and serine 178 of HPP, was the catalytic serine of CPEPT.

The Specification incorrectly states that the conserved aspartate residue of the serine carboxypeptidase catalytic triad is located at position 226 of HPP (page 11, line 24). Residue 226 of HPP (SEQ ID NO:8) is not an aspartate residue, as indicated in both the Sequence Listing, and in

Figure 2B. Also, residue 226 of HPP does not line up with the active site aspartates at residue 351 of SEQ ID NO:1 and residue 351 of VCP, as shown in the sequence alignment between VCP, HPP, and SEQ ID NO:1 in Figures 2A through 2D. Based on this sequence alignment, one of skill in the art would conclude that the catalytic aspartate of HPP was located at residue 328, because this aspartate corresponds to the active site aspartate residues of VCP and SEQ ID NO:1.

The Specification incorrectly states that the conserved histidine residue of the serine carboxypeptidase catalytic triad is located at position 448 of SEQ ID NO:1 and position 323 of HPP (page 11, lines 23-24). Neither residue 448 of CPEPT (SEQ ID NO:1) nor 323 of HPP (SEQ ID NO:8) are histidine residues, as indicated in both the Sequence Listing, and in Figures 2C and 2D. Also, residues 448 of SEQ ID NO:1 and 323 of HPP do not line up with the active site histidine at residue 448 of VCP, as shown in the sequence alignment between VCP, HPP, and SEQ ID NO:1 in Figures 2A through 2D. Based on this sequence alignment, one of skill in the art would conclude that the catalytic histidine of SEQ ID NO:1 was located at residue 449 and the catalytic histidine of HPP was located at residue 457, because these two histidines correspond to the active site histidine of VCP.

The correction of these obvious, inadvertent and unintentional errors in the identification of the active site residues of SEQ ID NO:1, VCP, and HPP would not have been new matter on March 31, 1997, the filing date of the earliest application to which the instant application claims priority. Therefore, Applicants respectfully request entry of the present amendment.

If the Examiner contemplates other action, or if a telephone conference would expedite allowance of the claims, Applicants invite the Examiner to contact the undersigned at (650) 621-8581.

If the USPTO determines that any additional fees are due, the Commissioner is hereby authorized to charge Deposit Account No. **09-0108**.

Respectfully submitted,

INCYTE GENOMICS, INC.

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Terence P. Lo
Terence P. Lo, Ph.D.

Limited Recognition (37 C.F.R. § 10.9(b)) attached
Direct Dial Telephone: (650) 621-8581

3160 Porter Drive
Palo Alto, California 94304
Phone: (650) 855-0555
Fax: (650) 845-4166

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

The paragraph beginning on page 11, line 18, has been amended as follows:

In one embodiment, the invention encompasses a polypeptide comprising the amino acid sequence of SEQ ID NO:1, as shown in Figures 1A through 1E. CPEPT is 477 amino acids in length. CPEPT has chemical and structural homology with VCP (GI 1718107; SEQ ID NO:7) and HPP (GI 190283, SEQ ID NO:8). In particular, CPEPT, VCP, and HPP share 42% and 28% identity, respectively. Additionally, CPEPT, VCP, and HPP contain the S, D, and H residues of the serine carboxypeptidase catalytic triad at [S₁₈₉,] S₂₀₄, D₃₅₁, and [H₄₄₈] H₄₄₉ (CPEPT), [S₁₈₉,] S₂₀₇, D₃₅₁, and H₄₄₈ (VCP), and [S₇₉,] S₁₇₈, [D₂₂₆,] D₃₂₈ and [H₃₂₃] H₄₅₇ (HPP).